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ABSTRACT

This competency-based preservice home economics teacher education module on environmental issues and the consumer is the third in a set of seven modules on consumer education related to management. (This set is part of a larger series of sixty-seven modules on the Management Approach to Teaching Consumer and Homemaking Education [MATCHE]--see CE 019 901-967.) Following the module objectives and overview, four units of instruction are presented: (1) current environmental issues related to family consumption patterns (includes one lesson on conservation and consumption patterns); (2) environmental action groups (includes lessons on evaluating environmental action groups and consumer acceptance of environmental action groups); (3) controlling pollution (includes lessons on the need to control pollution, pollution control, and pollution control practices); and (4) conserving natural resources (includes lessons on energy conservation, water conservation, and limited natural resources). Each lesson includes a narrative summary, suggested activities, and a list of suggested resources (readings). Some units also include a progress test. A module pre/posttest (with answer key) concludes the document. (Workshop proceedings relating to the development of these modules are available in the ERIC system as CE 019 896-899; also available is a module on utilizing FHA-HERO as an instructional strategy to expand and strengthen the home economics instructional programs [CE 019 900].) (JH)

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CONSUMER APPROACH STRAND:

MANAGEMENT

MODULE I-F-3 ENVIRONMENTAL ISSUES AND THE CONSUMER

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1978

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MATCHE

Management Approach to Teaching Consumer and Homemaking Education

MATCHE is an individualized, competency-based preservice curriculum designed for home economics education students at the preprofessional, upper division level. MATCHE is a comprehensive curriculum based on selected objectives which give emphases in three areas: 1) consumer approach to homemaking education, 2) teaching home economics in economically depressed areas, and 3) establishing occupational programs related to home economics. The material for each subject matter area of home economics has been organized into these three strands, and includes an FHA-HERO emphasis. These subject matter areas are home economics education core, housing, foods and nutrition, textiles and clothing, human development, and management.

The MATCHE modules were written by subject matter specialists from various colleges and universities offering home economics and therefore each is unique in the approach used for the development of the objectives. The modules allow for differences in level of achievement, rate of learning, and learning goals. They may be used independently, combined into a sequential series, or as a random set of conceptual units. Any instructor using the material can easily adapt the material to a specific group of students, the locale, method of instruction, and available facilities. Learning may be facilitated by offering one module in conjunction with others.

As MATCHE is continuously up-dated by those using the curriculum, some concepts and objectives may be added and others deleted. The purpose is to continually strengthen the program for pre and inservice home economics teachers.

Guidelines for Use and Continuous Development of MATCHE are on file with Home Economics units in each of the fifty state departments of education plus all of the Home Economics Departments in California institutions offering home economics education. This booklet and proceedings from the four MATCHE workshops give background information concerning the purpose and development of the MATCHE project.

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MATCHE PROJECT

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ENVIRONMENTAL ISSUES AND THE CONSUMER

Module Objectives

Given all available information, the MATCHE student will be able to evaluate various environmental action groups and personal involvement possibilities to determine which are most effective and worthwhile, the degree to which they maintain and protect natural resources for present and future use, and acceptance by the consumer. The MATCHE student will then present an oral evaluation summary to a panel of classmates.

The MATCHE student will be able to compose and present a fifteen minute speech on the necessity of controlling pollution and conserving natural resources to preserve human life and describe the role of government, business, private agencies, and the citizen. The speech on a selected environmental issue must meet the following criteria:

1. It must motivate action toward contacting local, state, and national legislators for specific action.

2. It must be accompanied by handouts of appropriate practices and instructions on how to wire and write to a legislator, and accompanying names, titles, and addresses of legislators.

3. After review by the officer(s) of any appropriate organization, the speech would be considered suitable for presentation to their membership.

Module Overview

The responsibility of the environment should be the concern of every consumer. Through consumption and conservation, we all affect what happens to our natural resources and surroundings. It is essential for consumers to be informed about and to take an active part in the current issues concerning the environment.

The purpose of this module is to enable you to gather current information about concerned action groups, to inform people about their role in the environmental crisis, and to move them to take an active part in controlling pollution.

To help you to understand the different aspects of conserving natural resources and controlling pollution, this module has been divided into the following units:

Unit 1: Current Environmental Issues Related to Family Consumption Patterns

Unit 2: Environmental Action Groups

Unit 3: Controlling Pollution

Unit 4: Conserving Natural Resources

UNIT 1

CURRENT ENVIRONMENTAL ISSUES RELATED TO
FAMILY CONSUMPTION PATTERNS

Objective

The MATCHE student will be able to collect and compile information which concerns current environmental issues related to family consumption patterns and will be able to analyze the issues which relate particularly to the community in which the student lives. The student will develop materials suitable for the homemaking curriculum.

Overview

There is a close relationship between conservation of natural resources and the environment and the consumption patterns of the individual families within a community.

It is the purpose of this unit to help you learn about the relationship between conservation and consumption and about current issues related to family consumption patterns.

Lesson: Conservation and Consumption Patterns

Narrative Summary

For many years, the concept of continuous economic growth was the answer to all the world's ills. Industrialized nations--the affluent societies--are societies of overconsumption in many areas. Individuals and families can effect change and help restore ecological balance by:

1. Protecting themselves from presently polluted conditions.

2. See to it that their own cycle of goods and life is well-balanced, non-polluting, and ecologically constructive.

Individuals can influence ecological balance in a community by first understanding the balance between people and the economy and then working within that system by refusing to buy aerosol cans, writing a letter of protest against a belching factory stack, planting a flower or recycling household products.

In order for the students to identify current environmental issues related to family consumption patterns, they will have to interview public officials, citizens, and the news media. Information gathered from public and private agencies will help students in analyzing the issues and developing curriculum materials.

Suggested Activities

1. Make a list of possible environmental issues related to family consumption patterns facing your community. Some examples are:

   a. water pollution
   b. visual pollution
   c. noise pollution
   d. solid waste disposal
   e. food waste
   f. natural resources
   g. packaging
   h. insecticides
   i. aerosol spray cans
   j. recycling
   k. air pollution
   l. energy

2. What changes have occurred in our "waste" oriented economy? Why have these changes occurred? How will these changes in the economy affect family consumption patterns?

3. Interview individuals in public and private agencies as well as citizens to determine what environmental issues related to family consumption patterns exist in the community in which the student lives. What are the possible costs involved?

4. Analyze the data you have obtained. Develop alternative family consumption patterns to help restore ecological balance.

Suggested Resources

American Association of University Women. Want to Save Your Environment?--Start at Home. Palo Alto: Peninsula Press, 1970.

Bock, A. The Ecology Action Guide. Los Angeles: Nash Publishing, 1971.

Calder, Negel. Nature in the Round: A Guide to Environmental Science. New York: Viking, 1973.

Carvell, Fred, and Max Tadlock. It's Not Too Late. Beverly Hills: Glencoe Press, 1971.

DeBell, Garrett. The Environmental Handbook. New York: Ballantine Books, 1970.

J. C. Penney Forum, "Consumers and Change," Spring/Summer, 1977.

J. C. Penney Forum, "Creative Decision Making," Fall/Winter, 1973.

Killeen, J. Ecology at Home. San Francisco: 101 Productions, 1971.

Manufacturing Chemists Association. Air Pollution--Causes and Cures. Manufacturing Chemists Association, Washington, D.C., 1972.

Manufacturing Chemists Association. Water Pollution--Causes and Cures. Manufacturing Chemists Association, Washington, D.C., 1972.

Paolucci, Beatrice. "The Family as an Eco-system," Changing Times, October, 1972.

Percivall, J. and P. Burger. Household Ecology. Englewood Cliffs, New Jersey: Prentice-Hall, 1971.

Reid, Keith, and others. Man, Nature and Ecology. New York: Doubleday, 1974.

Rogus, A. J., III. Goods and Not So Goods: Consumer Economics for the 70's. Hinsdale, Illinois: Dryden Press, 1972.

Sprecher, Daniel. Directory of Government Agencies Safeguarding the Consumer and the Environment. Alexandria, Virginia: Serina Press, 1970.

Swatek, P. The User's Guide to the Protection of the Environment. New York: Friends of the Earth, Ballantine Books, 1971.

Progress Test

Take a stand on a particular issue and write an editorial on that issue. This will serve as a progress test. Proceed to Unit 2.

UNIT 2

ENVIRONMENTAL ACTION GROUPS

Objectives

After obtaining information about several environmental action groups, the MATCHE student will be able to identify the group which is most effective and worthwhile in terms of conserving, maintaining, and protecting natural resources, and explain why that group was selected.

After obtaining information about several environmental action groups, the MATCHE student will be able to identify the group which is most likely to receive acceptance by consumers, and explain why that group was selected.

Overview

Where does a person go to get information about environmental action groups and the goals for which they are working? Environmental groups play an active part in trying to protect our resources. Many of them first began with one purpose or goal, but have now taken on several goals. Is there one source available which gives information on these groups? How does a consumer evaluate the work of these groups or decide whether he wants to join one?

It is the purpose of this unit to provide the answers to these questions regarding environmental action groups.

Lesson 1: Evaluating Environmental Action Groups

In addition to the narrative summary, all of the resources and activities presented in this lesson will enable you to analyze environmental action groups to determine their effectiveness.

Narrative Summary

Some environmental action groups can create much sound and fury and accomplish little. This type of group can be as slow and ineffective as the self-service bureaucracy it is so often pitted against. A strong, interested membership is needed that provides its accumulated talents on demand and pushes for strong, effective leadership of the organization.

Suggested Activity

List and define the criteria to use for identifying the environmental action group that is most effective and worthwhile in terms of conserving, maintaining, and protecting natural resources. Obtain the information needed for evaluation by contacting the leaders of the group, as well as various government agencies, public communication agencies, etc. Evaluate the groups and explain the decisions that were made.

Suggested Resource

Weathersbee, Christopher, and Bonnie Weathersbee. The Intelligent Consumer. New York: E. P. Dutton, 1973.

Your pamphlet and evaluation form will serve as a progress test. Proceed to Lesson 2.

Lesson 2: Consumer Acceptance of Environmental Action Groups

In addition to the narrative summary, all of the resources and activities presented in this lesson will enable you to identify the group which is most likely to receive acceptance by consumers.

Narrative Summary

Environmental action groups can be committed, involved, and dynamic, but if they are not easily accepted by consumers, their usefulness and effectiveness can be lost. Consumers are more likely to accept environmental action groups if the membership depends on the input of many people to determine its leadership, basic goals, and priorities. The organization must also allow for feedback from the consumers in the community and be able to adjust as new demands and problems arise.

Suggested Activities

1. Using information collected in Lesson 1, identify criteria to use in determining the environmental action group which is most likely to receive acceptance by consumers and justify the selection.

2. Develop a small pamphlet explaining how consumers can find out about environmental action groups. Develop an evaluation form for consumers to use to decide whether they want to join one. Include an evaluation form in the pamphlet.

Suggested Resource

Weathersbee, Christopher, and Bonnie Weathersbee. The Intelligent Consumer. New York: E. P. Dutton, 1973.

Your pamphlet and evaluation form will serve as a progress test. Proceed to Unit 3.

UNIT 3

CONTROLLING POLLUTION

Objectives

The MATCHE student will be able to discuss in detail the alternatives in relation to controlling pollution to preserve the environment.

Given several types of pollution, the MATCHE student will be able to discuss the pros and cons of measures taken to control pollution.

The MATCHE student will be able to list appropriate practices for disposing of household waste in urban and rural areas and discuss the effects of less appropriate practices. The student will develop a proposed plan of action for interested environmental groups.

Overview

Pollution is an issue that is constantly being discussed. Yet, what really are the facts as to how serious the situation is? The purpose of this unit is to find out just how the different types of pollution affect people's lives and to what extent measures can be taken to control pollution.

Lesson 1: The Need To Control Pollution

In addition to the narrative summary, all of the resources and activities presented in this lesson will enable you to evaluate the necessity of controlling pollution to preserve the environment.

Narrative Summary

Concern with all forms of pollution is now growing to a perception of the environment as a finite life support system. While consumers' past actions have seriously hampered this system, only their future actions can restore it to full capacity. Consumers must no longer live at full throttle, consuming as much as can be bought with no regard for the possible consequences. They must make wise consumption decisions in order to minimize pollution problems as a result of the product's use or disposal. Consumers must also learn about the least polluting methods to use when disposing of used or unwanted consumer goods.

Suggested Activities

1. Research the reasons why it is necessary to control all forms of pollution to preserve the environment. Translate the research into a program for consumers.

2. Develop creative uses for recycling household discards. Put these ideas into pamphlet format or a program that could be presented to secondary students, at P.T.A. meetings, or to community organizations. (You may wish to develop several seasonal programs on recycling.)

Suggested Resources

Alexander, T. "It's Time for New Approaches to Pollution Control," Fortune 94 (November, 1976), 129-31+.

American Association of University Women. Want to Save Your Environment?--Start at Home. Palo Alto: Peninsula Press, 1970.

Bock, A. The Ecology Action Guide. Los Angeles: Nash Publishing, 1971.

Calder, Negel. Nature in the Round: A Guide to Environmental Science. New York: Viking, 1973.

Carvell, Fred, and Max Tadlock. It's Not Too Late. Beverly Hills: Glencoe Press, 1971.

DeBell, Garrett. The Environmental Handbook. New York: Ballantine Books, 1970.

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Paolucci, Beatrice. "The Family as an Eco-system," Changing Times, October, 1972.

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Reid, Keith, and others. Man, Nature and Ecology. New York: Doubleday, 1974.

Rogus, A. J., III. Goods and Not So Goods: Consumer Economics for the 70's. Hinsdale, Illinois: Dryden Press, 1972.

Sprecher, Daniel. Directory of Government Agencies Safeguarding the Consumer and the Environment. Alexandria, Virginia: Serina Press, 1970.

Swatek, P. The User's Guide to the Protection of the Environment. New York: Friends of the Earth, Ballantine Books, 1971.

U.S. News, "Clean America," February 7, 1977.

Your report will serve as a progress test for this unit. Proceed to Lesson 2.

Lesson 2: Pollution Control

In addition to the narrative summary, all of the resources and activities presented in this lesson will enable you to discuss the pros and cons of measures taken to control pollution.

Narrative Summary

Many times consumers must be aware of the choices available to them in using and/or disposing of items that can pollute their environment. In almost all situations, there are advantages as well as disadvantages to the measures taken to control pollution. The pros and cons of measures taken to control pollution will depend on location, resources available, consumer involvement, state and local laws and regulations, climate, and soil composition. Most areas of the United States have problems with controlling water, air, noise, visual, and waste pollution.

Suggested Activities

1. Research the general pros and cons, as well as total costs, of measures to control the various forms of pollution. Research pollution control measure specific to your community. Evaluate your current community programs and suggest alternatives if needed. Translate the research into a program for consumers.

2. If research indicates a need to change or upgrade pollution control measures in your community, write an editorial or letter to the editor with positive suggestions.

Suggested Resources

Alexander, T. "It's Time for New Approaches to Pollution Control," Fortune 94 (November, 1976), 129-31+.

American Association of University Women. Want to Save Your Environment?--Start at Home. Palo Alto: Peninsula Press, 1970.

Bock, A. The Ecology Action Guide. Los Angeles: Nash Publishing, 1971.

Calder, Negel. Nature in the Round: A Guide to Environmental Science. New York: Viking, 1973.

Carvell, Fred, and Max Tadlock. It's Not Too Late. Beverly Hills: Glencoe Press, 1971.

DeBell, Garrett. The Environmental Handbook. New York: Ballantine Books, 1970.

Killeen, J. Ecology at Home. San Francisco: 101 Productions, 1971.

Manufacturing Chemists Association. Air Pollution--Causes and Cures. Manufacturing Chemists Association, Washington, D.C., 1972.

Manufacturing Chemists Association. Water Pollution--Causes and Cures. Manufacturing Chemists Association, Washington, D.C., 1972.

Paolucci, Beatrice. "The Family as an Eco-system," Changing Times, October, 1972.

Percivall, J., and P. Burger. Household Ecology. Englewood Cliffs, New Jersey: Prentice-Hall, 1971.

Reid, Keith, and others. Man, Nature and Ecology. New York: Doubleday, 1974.

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Sprecher, Daniel. Directory of Government Agencies Safeguarding the Consumer and the Environment. Alexandria, Virginia: Serina Press, 1970.

Swatek, P. The User's Guide to the Protection of the Environment. New York: Friends of the Earth, Ballantine Books, 1971.

U.S. News, "Clean America," February 7, 1977.

Your report will serve as a progress test for this unit. Proceed to Lesson 3.

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Lesson 3: Pollution Control Practices

In addition to the narrative summary, all of the resources and activities presented in this lesson will enable you to list approved practices for disposing of household waste in urban and rural areas and know the effects of unapproved practices.

Narrative Summary

Sanitary landfill is an excellent way for disposing of household waste in certain urban and rural areas. For this method to be environmentally safe, the landfill area must be checked for location of underground water and soil composition. Care must be taken to cover the disposal site each evening with fresh soil to prevent insects and rodents from infesting the area. Fresno soil each day also prevents papers, etc., from blowing around the area. Sanitary landfill areas should be designed so that it will not create visual pollution and properly leveled so that buildings or other facilities could be built on it once the site has been filled.

Some cities and communities have constructed recycling waste disposal plants that separate metal, glass, and paper products and recycle them.

Examples of polluting practices for disposal of household waste that are currently being done by cities and communities are: open dumps and dumping, open incineration, and dumping in the ocean or other bodies of water.

Many sewage disposal plants and facilities pollute our nation's water supply because of inadequate treatment of the sewage. There are very few sewage treatment plants in the United States that are "non-polluting" because these plants are so expensive to build.

Suggested Activities

1. Research the different types of waste disposal plants.
2. Research the suggested practices for disposing of household waste and the effects of unapproved practices.
3. Visit the community facilities for disposal of household waste.
4. Develop a proposed plan for action for interested environmental groups.

Suggested Resources

American City and Country, "Local Study Compares Collection Methods," November, 1976.

Dornay, A., and N. E. Franklin. Role of Packaging in Solid Waste Management. Washington, D.C.: U.S. Department of Health, Education, and Welfare, 1967.

Smay, V. E. "Waste-Treatment Plant Powered by On-Site Energy." Popular Science, September, 1976, p. 97.

Urban Systems Research and Engineering. Metropolitan Water Management: Case Studies and National Policy Implications. Final Report. Cambridge, Massachusetts, 1971.

Your report will serve as a progress test for this unit. Proceed to Unit 4.

UNIT 4

CONSERVING NATURAL RESOURCES

Objectives

The MATCHE student will be able to identify the reasons we are in an "energy crisis" and discuss in detail ways to conserve energy resources.

The MATCHE student will be able to identify how individual and family consumption patterns deplete the natural water supply and discuss in detail ways to conserve water.

The MATCHE student will be able to identify how individual and family consumption patterns deplete natural mineral and metal resources and discuss in detail ways to conserve those natural resources.

Overview

Many natural resources are in limited supply such as oil and aluminum and we are going to have to conserve these resources. Of all the oil drilled in the past 100 years, one half has been consumed in the past eighteen years. United States energy consumption doubles every twenty years. The United States constitutes 5 percent of the world population, but uses 30 percent of the world energy reserves. The purpose of this unit is to find out ways to conserve limited natural resources.

The consuming public cannot be separated from the environment. The choices consumers make affect their own health, happiness, and ultimate survival. The search for environmental equilibrium in all spheres of human life must begin in earnest, and it must begin at home, where each individual can make a contribution.

When America was discovered, the vast natural resources seemed inexhaustible. Americans have been cutting the forests, draining the swamps, impoverishing the soil, and depleting the ground water. The great natural resources of the United States have been squandered. Most of what remains has been spoiled by pollution. The attitude has been one of conquering nature, rather than of recognizing our dependence on natural resources and our need to live in harmony with the environment. Consumers must be aware of how their consumption decisions will affect future generations because oil, natural gas, and coal cannot be replenished. It takes up to 100 years for a mature forest to develop from an abandoned field.

Lesson 1: Energy Conservation

Narrative Summary

Since the "energy crisis" caused by the Arab oil embargo that occurred from late 1973 to mid 1974 and the natural gas "crisis" during the "Winter of '77", United States citizens have been forced to recognize that there is a real energy problem. Consumers have generally blamed natural gas and oil suppliers, legislators, utility companies, and the weather for the energy problems, rather than realizing that fossil fuels are in limited supply and we are going to have to develop energy alternatives and implement conservation measures. Consumers must realize that there are advantages and disadvantages to each alternative source of energy, and it would be a serious mistake to depend on one source as we did with oil. In the past, it has taken sixty years to shift from one source of energy to another, so we must start now.

Suggested Activities

1. Read several of the resources listed and then develop a resource booklet on how to conserve energy.

2. Research and report on all the advantages and disadvantages of alternative energy sources. (Nuclear energy, solar energy, wind machines, Water Power, Grathermal, Tidal Power, Bio-Fuels, Ocean Thermal Gradients.)

3. Develop thirty-second and sixty-second public service announcements that could be used on local radio and television stations to inform the public about energy conservation.

4. Develop a puppet show that could be shown to elementary school children.

Suggested Resources

Books

A summary Report on the National Petroleum Council, U.S. Energy Outlook. Washington, D.C.: National Petroleum Council, December, 1972.

Citizen's Advisory Committee on Environmental Quality, Citizen's Action Guide to Energy Conservation. Washington, D.C.: Government Printing Office, 1973.

Cochran, Thomas B. Fast Breeder Reactors. Baltimore: Johns Hopkins Press, 1974.

Energy and Power: A Scientific American Book. San Francisco: W. H. Freeman, 1971.

Energy Conservation Research. The Energy Challenge: What Can We Do? Malvern, Pennsylvania: Energy Conservation Research, 1974.

Executive Office of the President. Office of Emergency Preparedness. The Potential for Energy Conservation: A Staff Study. Washington, D.C.: Government Printing Office, October, 1972.

Fowler, John M. Energy and the Environment. New York: McGraw Hill, 1975.

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Lesson 2: Water Conservation

Narrative Summary

Each household in California consumes approximately 233 to 255 gallons of water daily. Government and private industry also consume an exceptional amount of water daily. The California drought of 1977 has forced the water for many households in northern California to be rationed. Many community water districts have demanded as much as a 50 percent curtailment in household water usage, and the cost of water has skyrocketed. Since there is little water available for irrigation, agriculture has had to pump underground water, thus lowering the ground table to an all-time low. By utilizing a few simple and common sense conservation measures, large amounts of water can be saved, and in the process, sewage flows and the amount of wastes discharged to the environment can be reduced.

Suggested Activities

1. Research and then develop a resource booklet on how to conserve water.

2. Develop thirty-second and sixty-second public service announcements that could be used on local radio and TV stations to inform the public about water conservation.

3. Research the possible consequences of drought conditions on hydro-electric energy, fish, bird, and wild life conservation.

Suggested Resources

California Department of Water Resources offers the following current publications free of charge:

Water Conservation Information Bulletin (series)

- Home Landscaping
- Low Volume Shower Heads and Adapters
- Faucet Flow Controls
- Low Flush Toilets
- Automatic Dishwashers

Hints for Water Conservation

Tips for California Farmers

Water Conservation in California

Water Conditions in California (published every month)

The California Drought: 1977

Drought Tips: (series)

- Guidelines for Reactivating Unused Wells
- Water Conserving Tips for Stretching H_2O on Crops and Soil
- Water Conserving Tips for Stretching Irrigation Water

Lesson 3: Limited Natural Resources

Narrative Summary

The United States is going to have to change its priorities and consumption patterns in regard to limited natural resources. Americans consume much meat. It takes approximately ten pounds of grain to yield one pound of meat, while millions of people in other countries are dying of starvation. Americans continue to use disposable one-way glass containers rather than deposit bottles. Aluminum is becoming scarce, yet we continue to produce disposable aluminum cans for various types of beverages. It takes up to 100 years for a mature forest to develop from an abandoned field, and yet we continue to over-package products. The economy is either going to have to restrict use of these limited resources or develop a complete recycling system for them.

Suggested Activities

1. Research and then develop a resource booklet on how to conserve limited natural resources.

2. Develop thirty-second and sixty-second public service announcements that could be used on local radio and television stations to inform the public about environmental problems.

3. Develop a puppet show to show how to conserve resources.

Suggested Resources

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Killeen, J. Ecology at Home. San Francisco: 101 Productions, 1971.

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Rogus, A. J., III. Goods and Not So Goods: Consumer Economics for the 70's. Hinsdale, Illinois: Dryden Press, 1972.

Sprecher, Daniel. Directory of Government Agencies Safeguarding the Consumer and the Environment. Alexandria, Virginia: Serina Press, 1970.

Swatek, P. The User's Guide to the Protection of the Environment. New York: Friends of the Earth, Ballantine Books, 1971.

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There is no Progress Check. When you feel you are ready, take the following unit Progress Test.

UNIT 4 PROGRESS TEST

Environmental Issues and the Consumer

Student_____

Instructor_____

Date_____

1. Why is nuclear energy an uncertain source for a future energy source?

2. Why do energy experts feel that the breeder reactor (nuclear energy) is needed for future energy?

3. What are some of the environmental consequences of converting from oil to coal burning for energy production?

4. The amount of solar radiation which penetrates our atmosphere and reaches the earth ranges from zero to about 75 percent. What factors influence radiation penetration?

5. What is the difference between an active and passive solar system?

6. What are the basic kinds of insulation used in building construction?

ANSWER KEY
UNIT 4 PROGRESS TEST

Environmental Issues and the Consumer

Instructor:	In booklets reproduced for students, you may wish to omit this page.

1. Conventional nuclear reactors presently use only 2 percent of the total energy available from uranium. The rest is waste heat or radioactive wastes, some of which must be isolated from the environment for at least 24,000 years. If we continue to increase consumption of uranium, it is questionable whether uranium production can keep up with demand.

2. Breeder reactors are seventy to eighty times more efficient than conventional reactors. That could ensure uranium supplies for decades.

3. Conventional methods of burning coal are environmentally detrimental because of the high sulfur content of much of the coal. There can also be severe environmental consequences of extraction--strip mining as well as shaft mining.

4. Geographical location
   Time of day
   Seasons
   Clouds
   Humidity
   Dust

5. An active solar system is one in which energy--in addition to solar--is used for the transfer of thermal energy. This additional energy is required for pumps, blowers, or other heat transfer medium moving devices for system operation. Generally, the collection, storage, and distribution of thermal energy is achieved by moving a transfer medium throughout the system with the assistance of pumping power.

   A passive solar system is one in which solar energy alone is used for the transfer of thermal energy. Collection, storage, and distribution are achieved by natural heat transfer phenomena employing convention, radiation, conduction, and evaporation in conjunction with the use of thermal capacitance as a heat flow control mechanism.

6. Loose-fill insulation
   Blanket insulation
   Batt insulation
   Insulation board
   Slab or block insulation
   Reflection insulation
   Foam-in-place insulation
   Spayed on insulation
   Corrugated insulation

MODULE PRE/POSTTEST

Environmental Issues and the Consumer

Student_____

Instructor_____

Date_____

Student: This pre/posttest will assess your knowledge of the information presented in this module. You need study only those units that are prescribed on the basis of the pretest results.

1. List the possible environmental issues related to family consumption patterns facing communities.

2. What characteristics help identify an environmental action group as being effective and worthwhile in terms of conserving, maintaining, and protecting natural resources?

3. List three environmentally safe practices for disposing of household waste in urban and rural areas. List three practices that are not safe for the environment for disposing of household waste.

4. What are the energy alternatives to fossil fuels?

Pre/posttest (continued)

5. On the average, how much water does each California household consume?

6. To save energy when heating your home, keep your thermostat at:

   a. 72° b. 68° c. 74° d. 78°

7. To save energy when cooling your home, keep your thermostat at:

   a. 78° b. 72° c. 74° d. 70°

8. The best way to choose attic insulation is by:

   a. thickness b. brand c. R-value

9. Attic insulation by R-value indicates:

   a. thickness b. resistance to heat flow c. weight

10. In order to adequately insulate your attic, choose an insulation that:

    a. is 6 inches thick b. has an R-19 value

    c. has an R-11 value

11. When purchasing an air conditioner, you should look for a high-efficiency model with an EER (Energy Efficiency Ratio) of:

    a. 1 b. 3 or under c. at least 5.5

    d. 7.5 or higher

12. The home appliance which uses the most gas energy is:

    a. water heater b. range c. heating system

13. Normally, you use as much hot water for a shower as you do for a bath:

    True _____ False _____

Pre/posttest (continued)

14. A 100-watt bulb gives:

a. 10% b. 30% c. 50% d. 85%

more light than four 25-watt bulbs for the same amount of energy.

15. Fluorescent lighting uses approximately:

a. 1/3 b. 2/3 c. 3/4 the energy of an incandescent bulb with the same light output.

16. A chemical that has played a major role in purifying water for drinking and recreational uses is _____.

17. Which source emits the most carbon monoxide to the atmosphere?

a. automobiles b. industry c. nature

18. One of the main processes for cleaning wastewater employs:

a. bacteria b. laser beams c. radioisotopes

19. The home water softener that uses synthetic resins to remove minute mineral particles is based on an industrial process used in advanced water treatment. It is:

a. reverse osmosis b. ion exchange c. carbon absorption

Return this test to your instructor for evaluation.

ANSWER KEY
MODULE PRE/POSTTEST

Environmental Issues and the Consumer

Instructor: Do not reproduce this page in students' booklets. You must retain it for grading and prescriptive purposes. Answers will vary with individuals. A preferred response might be similar to the answer presented.

1. water pollution
   air pollution
   noise pollution
   visual pollution
   solid waste disposal
   food waste
   natural resources
   insecticide
   aerosol spray cans
   recycling
   energy

2. strong leadership
   committed, involved, interested membership
   accepted by consumers
   feedback from consumers

3. Environmentally safe

   recycling centers
   sanitary landfill
   recycling waste disposal plants

   Environmentally poor

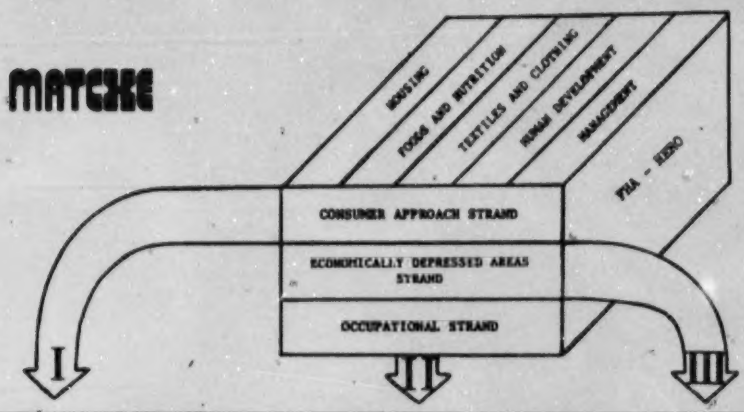
   open dumps
   open incineration
   dumping in the ocean or other bodies of water

4. nuclear energy
   solar energy
   wind machines
   water power
   geothermal
   tidal power
   bio-fuels
   ocean thermal gradients

Pre/posttest Answer Key (continued)

5. 233 to 255 gallons
6. b
7. a
8. c
9. b
10. b
11. d
12. c
13. false
14. d
15. a
16. chlorine
17. c
18. a
19. b

MATRIX



	I	II	III
A.	CORE: CONSUMER APPROACH TO HOMEMAKING EDUCATION 1 Life Styles and the Consumer 2 Community Consumer Resources 3 Consumer Rights and Responsibilities 4 Incorporating the Consumer Approach in Homemaking Classes	CORE: ESTABLISHING OCCUPATIONAL PROGRAMS 1 Analyzing Job Market Opportunities 2 Developing Occupational Programs 3 Implementing Occupational Programs 4 Evaluating Occupational Programs	CORE: TEACHING HOME ECONOMICS IN ECONOMICALLY DEPRESSED AREAS 1 Characteristics of Economically Depressed Areas 2 Life Style Characteristics of Economically Depressed Areas 3 Community Resources for Economically Depressed Areas 4 Developing and Implementing Programs for Economically Depressed Areas
	AREA (Module) PACKAGES	AREA (Module) PACKAGES	AREA (Module) PACKAGES
B.	HOUSING 1 Consumer Use of the Community 2 Procedures for Selecting a Community 3 Procedures for Selecting Housing 4 Shopping for a Home Loan 5 Procedures for Selecting Furnishings 6 Maintenance Procedures for Surfaces, Furniture, and Appliances	HOUSING 1 Occupational Opportunities Related to Housing and Interiors 2 Required Skills for Retail Sales of Furnishings and Related Household Items	HOUSING 1 Low Income Housing 2 Government Housing Programs 3 Low Income Furnishings
C.	FOODS AND NUTRITION 1 Technological, Sociological, Ecological, and Environmental Factors Related to Food 2 Regulatory Agencies Responsible for Wholesomeness and Quality of Foods 3 Consumer Aspects in Planning Meals 4 Cultural Food Patterns 5 Influences on Food Prices	FOODS AND NUTRITION 1 Occupational Opportunities Related Foods and Nutrition 2 Operations and Activities of a Food Service Operation 3 Managing a Food Service Operation	FOODS AND NUTRITION 1 Food Availability in Economically Depressed Areas 2 Low Income Food Patterns 3 Meal Management on a Low Income
D.	TEXTILES AND CLOTHING 1 Consumer Approach to Textiles and Clothing 2 Sociological, Psychological, and Economic Factors Affecting Clothing Selection 3 Clothing Needs of Individuals 4 Applications and Implications of New Technology in Textiles and Clothing	TEXTILES AND CLOTHING 1 Occupational Opportunities Related Textiles and Clothing 2 Assembly Line Garment Construction 3 Merchandising Textiles and Ready-To-Wear	TEXTILES AND CLOTHING 1 Clothing the Individual and Family 2 Utilizing Resources for Clothing and Textiles
E.	HUMAN DEVELOPMENT 1 Societal Changes Affecting the Family 2 The Relationship Between Spending Patterns and Interpersonal Relationships 3 Financial Pressures in Various Life Styles and Cycles 4 Individuals and Families in Crisis 5 Consumper Aspects of Parenthood	HUMAN DEVELOPMENT 1 Occupational Opportunities Related to Human Development 2 Children's Center Aide 3 Developing Programs for Preschool Children 4 Convalescent Home Aide	HUMAN DEVELOPMENT 1 Characteristics of Economically Depressed Area Families 2 The Child and the Economically Depressed Area Family 3 Resources for the Economically Depressed Area Family
F.	MANAGEMENT 1 Relationship Between National and Consumer Economics 2 Consumer Legislative Issues 3 Environmental Issues and the Consumer 4 Financial Management 5 Family and Individual Credit Management 6 Management View of the Multiple Role 7 The Metric System	MANAGEMENT 1 Occupational Opportunities Related to Home Management and Supporting Services 2 Occupational Preparation for Jobs Utilizing Housekeeping Skills	MANAGEMENT 1 Management Skills 2 Money Management 3 Marketing Practices in Relation to Low Income Clientele